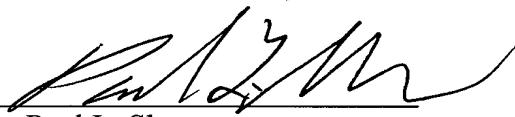


REMARKS

After introduction of the amendment set forth above, claims 1-34 will be pending in the application of which claims 1, 23, 25, 26, 27, 28, 29, 30 and 32 are independent. Claims 4, 5, 7, 8, 11, 12, 13, 15, 22, 24, 32 and 33-34 have been amended to eliminate multiple dependency of the claims. Support for the above amendments can be found throughout the original application as filed. Applicants submit that no new matter has been introduced by the amendment.

Respectfully submitted,

PILLSBURY WINTHROP, LLP

By: 

Paul L. Sharer
Reg. No. 36,004
Tel. No.: (703) 905-2180
Fax No.: (703) 905-2500

PLS:cdw
1600 Tysons Boulevard
McLean, VA 22102
(703) 905-2000

Enclosure: Appendix

APPENDIX

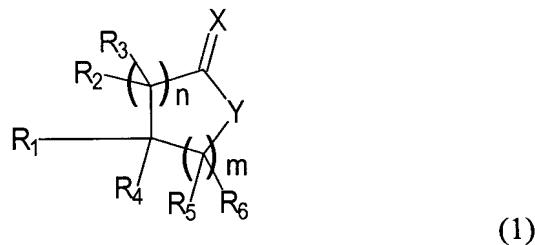
VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS:

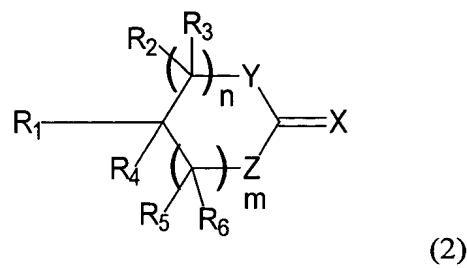
The claims are amended as follows:

4. (Amended) The radiation curable composition according to [anyone of claims 1-3] claim 1, wherein the functional group, when attached to an acrylate group, has a Boltzmann average dipole moment of higher than 4.5 Debye.

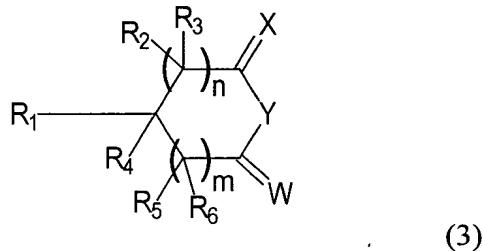
6. (Amended) The radiation curable composition according to [anyone of claims 1-4] claim 1, wherein one or more components are present that are chosen from the group consisting of lactones (C1) according to the formula (1):



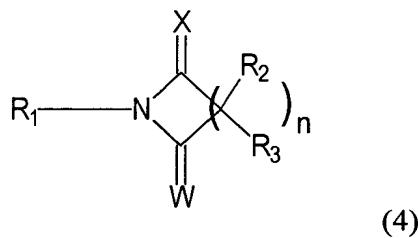
wherein R₁ = organic group with a molecular weight between 40 and 20000; R₂, R₃, R₄, R₅, R₆ and R₇ are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P; X is an oxygen or sulfur atom; Y is an oxygen or sulfur atom or an NR₇-group; n is 0-4; m is 0-4 and n+m =1-4; or cyclic carbonates (C2) according to formula (2):



wherein R_1 = organic group with a molecular weight between 40 and 20000; R_2, R_3, R_4, R_5, R_6 and R_7 are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X is an oxygen or sulfur atom; Y and Z are independently an oxygen or sulfur atom or an NR_7 -group; n is 0-4; m is 0-4 and $n+m = 1-4$, but excluding the compound wherein $n = 1, m = 0$, $R_2, R_3, R_4 = H$ and $R_1 = CH_2CHCO_2CH_2$ or $R_1 = CH_2CCH_3CO_2CH_2$,
or compounds (C3) according to the formula (3):

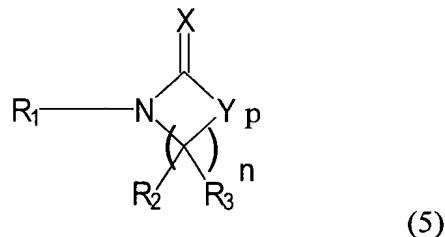


wherein R_1 = organic group with a molecular weight between 40 and 20000; R_2, R_3, R_4, R_5, R_6 and R_7 are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X and W are independently an oxygen or sulfur atom; Y is an oxygen or sulfur atom or an NR_7 -group; n is 0-4; m is 0-4 and $n+m = 1-4$; or a compound (C4) according to the formula (4):

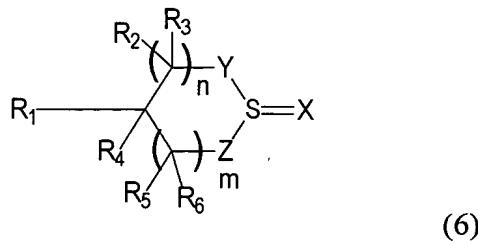


wherein R_1 = organic group with a molecular weight between 40 and 20000; R_2 , and R_3 , are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X and W are independently an oxygen or sulfur atom; n is 1-4;

or a compound (C5) according to the formula (5):

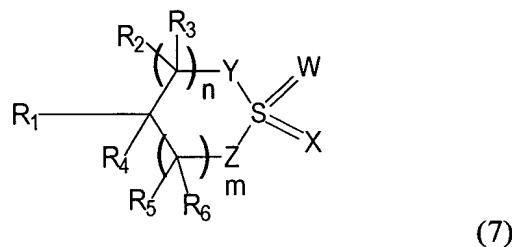


wherein R_1 = organic group with a molecular weight between 40 and 20000; R_2 , and R_3 are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X is an oxygen or sulfur atom; Y is an oxygen or sulfur atom or an NR_7 -group; n is 1-5; p = 0, 1; but excluding a compound wherein $R_1=CH_2CHCO_2CH_2CH_2$ or $R_1=CH_2CCH_3CO_2CH_2CH_2$ with n=2, 3 and X = Y = oxygen, or a compound (C6) according to the formula (6):



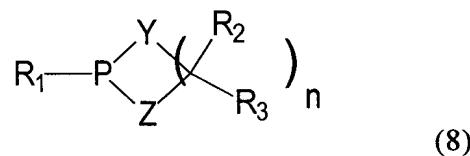
wherein R_1 = organic group with a molecular weight between 40 and 20000; R_2, R_3, R_4, R_5, R_6

and R₇ are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X is an oxygen or sulfur atom; Y and Z are independently an oxygen or sulfur atom or an NR₇-group; n is 0-4; m is 0-4 and n+m = 1-4, or a compound (C7) according to the formula (7):



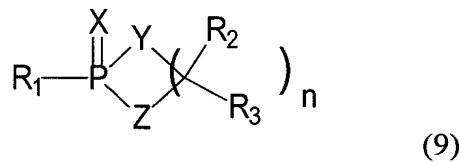
wherein R₁ = organic group with a molecular weight between 40 and 20000; R₂, R₃, R₄, R₅, R₆ and R₇ are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; W, X, Y and Z are independently an oxygen or sulfur atom or an NR₇-group with the proviso that W and X are not both an NR₇-group at the same time; n is 1-4;

or a compound (C8) according to the formula (8):



wherein R₁ = organic group with a molecular weight between 40 and 20000; R₂, R₃, and R₇ are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X is an oxygen or sulfur atom; Y and Z are independently an oxygen or sulfur atom or an NR₇-group; n is 1-4;

or a compound (C9) according to the formula (9):

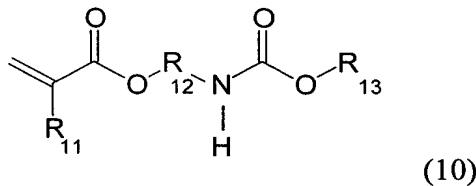


wherein R₁ = organic group with a molecular weight between 40 and 20000; R₂, R₃, and R₇ are independently of each other H, an alkyl group having 1-20 C atoms, wherein the alkylgroup can be linear, branched or cyclic and may contain heteroatoms like =N, O, S and P or an arylgroup having from 6-20 C-atoms; X is an oxygen or sulfur atom; Y is an oxygen or sulfur atom or an NR₇-group; n is 1-4.

7. (Amended) The radiation curable composition according to [any of claims 2-6] claim 6, wherein the radiation curable oligomer (A) or diluent (B) comprises a NH- or OH-group.

8. (Amended) The radiation curable composition according to [any of claims 1-8] claim 1, wherein the component that contains a functional group also has a radiation curable functional group selected from the group consisting of methacrylate, acrylate, vinylether, fumarate, maleate, itaconate, oxolane or epoxy group.

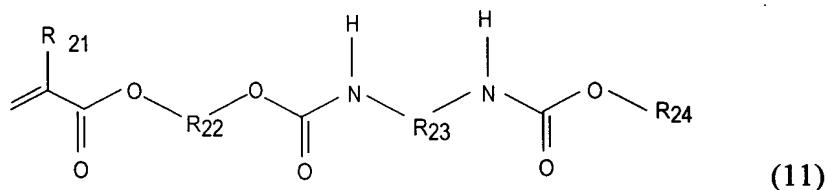
11. (Amended) The radiation curable composition according to [anyone of claims 1-10] claim 1, wherein a radiation curable diluent is present, which is a compound according to the formula (10):



wherein R₁₁ = H or Me, R₁₂ = organic group having 1-20 C-atoms and R₁₃ is a heterocyclic group of which the corresponding alcohol has a calculated Boltzmann average dipole moment of > 2.5 Debye.

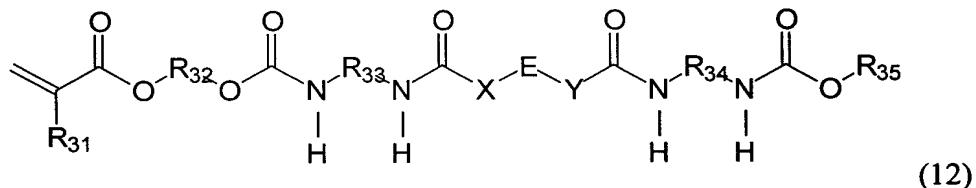
12. (Amended) The radiation curable composition according to [anyone of claims 1-11] claim 1, wherein a radiation curable diluent is present, which is a compound according to

the formula (11):



wherein $\text{R}_{21} = \text{H}$ or Me , $\text{R}_{22} = \text{organic group having 1-20 C-atoms}$, $\text{R}_{23} = \text{organic group having 1-20 C atoms}$ and R_{24} is a heterocyclic group of which the corresponding alcohol has a calculated Boltzmann average dipole moment of > 2.5 Debye.

13. (Amended) The radiation curable composition according to [anyone of claims 1-12] claim 1, wherein a radiation curable component is present according to the formula (12):



wherein $\text{R}_{31} = \text{H}$ or Me , R_{32} , R_{33} and R_{34} = are independently an organic group having 1-20 C atoms, E oligomer or polymer with a molecular weight between 100 and 100000, X and Y are independently oxygen, sulphur or a NR_7 -group, and R_{35} is a heterocyclic group of which the corresponding alcohol has a calculated Boltzmann average dipole moment of > 2.5 Debye.

15. (Amended) The radiation curable composition according to [any one of claims 1-14] claim 1, wherein the component that contains a functional group which, when attached to an acrylate group, has a calculated Boltzmann average dipole moment of greater than 3.5 Debye or the component containing a heterocyclic group of which the corresponding alcohol has a calculated Boltzmann average dipole moment of greater than 2.5 Debye is present in an amount of at least about 3 wt.% relative to the total amount of components in the composition.

17. (Amended) A process for preparation of the radiation curable compounds as defined [any one of claims 5-14] claim 5, by reacting together

- (i) an hydroxy-, thiol- or NH-functional (meth)acrylate,
- (ii) a di-or more functional isocyanate, and
- (iii) an hydroxy-, thiol- or NH-functional compound having a calculated Boltzmann average dipole moment of greater than 2.5 Debye.

18. (Amended) A process for preparation of the radiation curable monomers as defined in [any one of claims 5-14] claim 5, by reacting together

- (i) an hydroxy functional (meth)acrylate,
- (ii) a di-functional isocyanate, and
- (iii) a hydroxy functional compound having a calculated Boltzmann average dipole moment of greater than 2.5 Debye.

19. (Amended) A process for preparation of the radiation curable monomers according to [any of claims 5 to 14] claim 5, by reacting together

- (i) one equivalent of an hydroxy functional (meth)acrylate,
- (ii) two equivalents of a di-functional isocyanate,
- (iii) one equivalent of a diamine, dihydroxy or dithiol functional compound with a molecular weight Mn of 1000 or less, and
- (iv) one equivalent of an hydroxy functional compound having a calculated Boltzmann average dipole moment of greater than 2.5 Debye.

20. (Amended) A process for preparation of the radiation curable oligomer according to [any of claims 5 to 14] claim 5, by reacting together

- (i) one equivalent of an hydroxy functional (meth)acrylate,
- (ii) two equivalents of a di-functional isocyanate,
- (iii) one equivalent of a diamine, dihydroxy or dithiol functional compound with a molecular weight Mn of greater than 1000, and
- (iv) one equivalent of an hydroxy functional compound having a calculated

Boltzmann average dipole moment of greater than 2.5 Debye.

21. (Amended) A process for preparation of the radiation curable oligomer according to [any of claims 5 to 14] claim 5, by reacting

- (i) an hydroxy functional (meth)acrylate,
- (ii) a tri-or more functional isocyanate,
- (iii) an hydroxy functional compound having a calculated Boltzmann average dipole moment of greater than 2.5 Debye together, and
- (iv) an hydroxy or amine functional oligomer with an average hydroxy or amine functionality greater than 1.5.

22. (Amended) Use of radiation curable compositions as defined in [claims 1-16] claim 1 in coatings, adhesives, inks.

24. (Amended) Use of the radiation curable composition as defined in [anyone of claims 1- 16] claim 1 for coating of glass fibers.

31. (Amended) A radiation curable composition according to [any one of claims 26-30] claim 36, wherein the composition comprises at least 3 wt% relative to the total amount of components in the composition of at least one of the components selected from a component that contains a functional group which, when attached to an acrylate group, has a calculated Boltzmann average dipole moment of greater than 3.5 Debye or a component that contains a heterocyclic group of which the corresponding alcohol has a calculated Boltzmann average dipole moment of greater than 2.5 Debye.

33. (Amended) Coated optical fiber comprising a glass optical fiber, a primary coating applied thereon, a secondary coating applied on the primary coating and optionally an ink

composition applied on the secondary coating, wherein at least one of the primary coating, secondary coating or ink composition is a radiation curable composition according to [any one of claims 1-16 or claims 26-31] claim 1.

34. (Amended) Optical fiber ribbon comprising a plurality of coated, and optionally colored optical fibers arranged in a plane and embedded in a matrix composition, wherein the coated optical fiber is a fiber according to [any one of claims 32-33] claim 32.